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The COVID-19 pandemic in rural and remote areas: the view of family and community physicians on primary healthcare

A pandemia de COVID-19 em territórios rurais e remotos: perspectiva de médicas e médicos de família e comunidade sobre a atenção primária à saúde

La pandemia de la COVID-19 en territorios rurales y remotos: perspectiva de médicas y médicos de familia y comunitarios sobre la atención primaria en salud

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Introduction

The pandemic of the disease caused by SARS-CoV-2, called COVID-19 [1], reached every state of Brazil by April 2020, including rural and remote areas [2,3]. The main characteristics of these areas are: small population size, low population density, limited supply of services, subsistence agriculture, typical administrative division, and crowded housing [4,5]. They include traditional populations in remote rural areas such as indigenous peoples, quilombola (maroon) communities, peoples of the forest, river-dwellers, and others, called peoples of the countryside, forest, and waters (hereinafter PCFA, as in Portuguese) [4,6,7].

The Brazilian Institute of Geography and Statistics (IBGE) classifies urban-versus-rural based on population density at the municipal (county) scale. Remote territories are defined according to the criterion of accessibility to cities and access by the municipalities (counties) to complex goods and services [5]. In this classification, 45% of Brazil's municipalities display low degrees of urbanization, 28% do not have a population with dense occupation of the territory and are thus considered rural, and 8% are remote [5].

The Brazilian National Policy for Comprehensive Health of Populations of the Countryside, Forest, and Waters (the PCFA policy) is addressed to the peoples and communities of these territories. Their ways of life, production, and social reproduction are related predominantly to the land. They are neglected populations, with the country's worst socioeconomic, human development, and health indicators [4,6,8,9]. Thus, healthcare in rural Brazil should be more inclusive, reflecting the diversity of the country's people, as provided under the PCFA policy.

Brazil's indigenous peoples stand out among the PCFA with the worst human development indices and highest poverty levels. They suffer from precarious access to healthcare, high infant mortality, and high prevalence of tuberculosis, intestinal parasites, diarrhea, and respiratory infections. Institutional racism and on-going encroachment on their territories also result in food insecurity and underservice [3,10].

Health in rural or remote areas, linked to the way of life in the territory and to the preservation of biodiversity, includes populations in conditions of vulnerability, in extreme poverty, underserved by many public policies [4,7,8,11]. The COVID-19 pandemic further reveals these iniquities.

The heterogeneity of realities in Brazil's regions reinforces the need for different organizations and health services supply, from logistics to distribution of inputs, organization of work processes, and specific financing [3,4,7].

The Brazilian Ministry of Health, under the protocol for COVID-19 management in primary healthcare (PHC) [12], highlights the importance of this strategy in outbreaks and epidemics, considering the essential attributes – access, comprehensiveness, longitudinal care, and coordination of care – and related characteristics – the family and community approach and cultural competence [13]. In the context of COVID-19 in the PCFA communities, these attributes are both a challenge and a potential guarantee of care for these populations. In these localities, PHC services are the only ones in the healthcare network and must draw on creative work strategies, further developing these attributes [4,7,11].

Family and community physicians and other health professionals in PHC play a key role as guardians of these attributes [8,11]. The current article discusses the view of family and community physicians in different regions of Brazil, with experiences in care for PCFA in the Brazilian Unified National Health System (SUS). The aim is to describe the challenges faced by family and community physicians and to identify proposals for action based on the attributes of PHC, considering them as the backbone for practices in rural and remote localities during the COVID-19 pandemic. The article is limited to a concise overview, acknowledging that the concept of rural health involves an in-depth discussion. Indigenous people's health, with its own subsystem and specificities, will be included in this discussion of the PCFA and highlighted in the article.

Challenges

COVID-19 cases and deaths are already happening in the hinterlands of Brazil. The states of Amazonas and Amapá, which are mostly rural and remote, have high incidence and mortality rates, and their health systems are collapsing. The belief that COVID-19 is a *"big-city disease"* creates obstacles to behavior changes and prevention in PCFA [3,9], but its spread to such remote regions as the Rio Negro and Rio Solimões shows that the geographic isolation of PCFA communities does not detain the disease [2,3].

Geographic and climate issues such as the rainy season in the Amazon hinder overland and river transportation, preventing the circulation of patients, health professionals, and supplies [4,7,8], creating challenges for access to healthcare services. In the semiarid region, the drought season limits access to safe water, hygiene, and food. In the South-Southeast of Brazil, the cooler "winter" season increases indoor crowding and use of firewood for heating and cooking, further aggravating respiratory diseases.

It is difficult to retain health professionals (especially physicians) in these territories, which jeopardizes the continuity of care over time. The More Doctors Program (PMM, in Portuguese) allowed partially resolving the shortage of physicians in PCFA, but the program is facing challenges due to changes in the professional profile and lack of funding. Indigenous communities were particularly hard-hit by the interruption of Cuban physicians' participation in the PMM [7,14].

The shortage of health professionals is exacerbated by their own sick leave due to COVID-19. Nurses, nurse technicians, community health agents, and indigenous health agents are sometimes the only healthcare providers in these communities. Geographic isolation and the expanded scope of practices have increased the risk of burnout syndrome among health workers [4,11].

The unfavorable health and epidemiological profile of the PCFA increases the risk of death from COVID-19 [2]. Neglected and infectious-parasitic diseases, common among PCFA, as well as problems resulting from social vulnerability such as alcoholism, violence, and mental disorders [4,7], overlapping with the risk of e COVID-19, are potentially aggravated by social distancing, requiring PHC services to maintain comprehensive care.

Even support by PHC teams for mild cases of COVID-19 [12] runs up against structural problems in access to clean water, hygiene products, sanitation, and food security [4,7]. An attempt to contain the pandemic via a lockdown on river traffic in the Amazon [3] worsened the supply of inputs and medicines in a region already subject to chronic shortages of analgesics, personal protective equipment (PPE), and material for stabilization of severe cases [7,8], thus restricting the capacity of care for persons with COVID-19. The shortage of human resources and intensive care units in rural and remote areas

hinders access to such care, requiring teams to coordinate care [4] for early removal of severe patients in the healthcare network.

Relations of kinship, neighborly cooperation, and friendship are present in the work, life, and feelings of belonging and sociability in rural communities [4,15] and pose challenges for family and community-oriented PHC teams. Group living defines life, work, and leisure in PCFA, hampering the social distancing recommended during the COVID-19 pandemic. In these localities, it is common for the telephone/internet signal to work in only one spot in the community, shared by all the residents and serving as the main source of access to information (even while compromising users' privacy) [4].

Peculiarities such as the expanded family nucleus and community housing and living [10] facilitate the spread of COVID-19. Village-dwelling indigenous peoples depend on the municipal hubs of the Special Indigenous Health Districts for essential services such as receiving income benefits, thus aggravating these vulnerabilities [3,10].

Guidelines such as frequent handwashing and using masks and alcohol gel sanitizer are interpreted by the PCFA according to their own cultural specificities, requiring culturally competent communication [9,11]. Information materials and awareness-raising campaigns will also fail to reach indigenous peoples if they are not available in the indigenous languages.

Final remarks

Coordination of care allows mitigating the rural health challenges and problems, responding to the obstacles to access, the health and epidemiological profile, and healthcare, linking support from state and federal programs in the healthcare networks, permanent education, community participation, and inter-sector linkage [13].

The protocol specifies measures for the pandemic – measures for prevention/containment, use/disposal of PPE, fast-track procedures, monitoring risk groups, isolation and surveillance, early identification, risk assessment, testing of suspected cases, stabilization, and adequate referral of severe cases [12]. However, in remote areas, quick identification and transfer of serious patients before they require invasive mechanical ventilation is essential to guarantee and arrange access and transportation to urgent care and hospitalization, especially for intensive care and testing.

Coronavirus management in primary healthcare should highlight the continuity of care through the use of remote communication [12,16,17]. Rural healthcare teams have already used these tools successfully, also allowing continuous care over time [11]. Still, remote communities experience greater difficulties such as instability of telephone/internet signals and home visits. Digital access barriers have been overcome, for example, by radio contact and participation by community leaders in the organization of care [11].

Considering comprehensive care, permanent education and referral/counter-referral are strategic in the implementation of COVID-19 management, ensuring the qualification of professionals in all stages of the care. These stages include referral/counter-referral with the Family Health Support Center, supervision of the PMM, teleconsultation, distance education in partnership with universities, and specific training for work in rural or remote territories [14]. The stages allow adapting protocols when there are no physicians or nurses in the rural community, expanding the healthcare networks' case-resolution capacity.

The community approach allows structuring the work process by engaging the territory and community in the process [9,11,17]. Surveillance and notification need to be reinforced, avoiding the invisibility of the PCFA, especially indigenous peoples (including those not living in villages, due to their characteristic mobility) [3]. It is time to implement or resume the diagnosis of community characteristics, map the territory's resources for social distancing/isolation, places for the supply of food, water, and hygiene products, and houses/shelters/institutions for persons at risk or in conditions of vulnerability. It is also time to identify beliefs, fears, worries, and myths related to COVID-19 that can lead to delays in diagnosis and timely referral.

COVID-19 exacerbates food insecurity. PCFA have a key role in food production and in guaranteeing that foods reach rural and remote territories. The community approach can launch inter-sector collaboration, involving productive/economic activities. Strengthening networks of solidarity is

crucial to prevent the coronavirus' spread and support the affected communities. Alternative networks for the production, sale, and transportation of foods can optimize access to them during the pandemic and avoid transmission in the PCFA [18].

Community participation through the inclusion of leaders such as community and indigenous health agents in the organization of activities is crucial for healthcare in the PCFA, in activities connected to the territory [4,6]. The perspective of dialogue and community collaboration with other stakeholders allows identifying social distancing strategies that are compatible with their ways of life and their understanding of the body and illness [15]. As an example, in the predominantly rural state of Tocantins, there is a plan proposed by indigenous activists and family and community physicians [19].

To understand and legitimize the way of life of PCFA and their views of health, disease, and healthcare means practicing cultural competence [13]. This attribute (derived from PHC) empowers health education activities for the necessary behavior changes to contain the coronavirus, qualifying the care and reducing racial and ethnic iniquities [4,11,15]. The attribute also acknowledges heterogeneity and power differences in the communities, especially among traditional peoples [15], besides improving the health of indigenous peoples that are at risk of genocide and ethnocide. This process involves strengthening indigenous affairs policies and environmental agencies, guaranteeing the rights of these traditional peoples [3,10].

This article contributes to an urgent perspective on COVID-19. In the authors' view, the COVID-19 pandemic's presence in PCFA in Brazil exacerbates preexisting challenges and vulnerabilities. However, measures to strengthen the attributes of primary healthcare and the SUS emphasize the responsibility of governments, health professionals, and society and can be the key for fighting the pandemic and reclaiming values of solidarity and citizens' action.

Contributors

M. Floss and C. M. Franco contributed to the study's conception and project, analysis and interpretation, and writing, revision, and approval of the final version for publication and are responsible for guaranteeing the study's accuracy and integrity. C. Malvezzi, K. V. Silva, B. R. Costa, V. X. L. Silva, N. S. Werreria, and D. R. Duarte contributed to the article's writing and revision.

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